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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/593,446	06/15/2000	Michael A. Gaynes	EN997170C	9250

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EXAMINER	
VO, HAI	
ART UNIT	**PAPER NUMBER**
1771	16

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/593,446	Applicant(s) GAYNES ET AL.
	Examiner Hai Vo	Art Unit 1771

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 June 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *31-38* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *31-38* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *9*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Prosecution Reopened

1. In view of the Appeal brief filed on 06/06/03, PROSECUTION IS HEREBY REOPENED for the following reasons. In the 10/31/2002 Final Office Action, claims 31-38 were not rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-13 of U.S. Patent No. 6,447,885. In addition, the art rejections over Iwashita et al (US 4,715,686) with respect to claims 31, 32, and 34-37 have been overcome by Applicant's arguments (see the last paragraph at page 8 of Appeal brief). The adhesive suggested by Iwashita appears to be in the form of a film, it would not inherently result in a wave undulating profile at the edges of the smaller surface as recited in the claims. However, the application is not allowable in view of new ground of the double patenting rejection set forth below.

   To avoid abandonment of the application, appellant must exercise one of the following two options:

   (1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

   (2) request reinstatement of the appeal.

   If reinstatement of the appeal is requested, such request must be accompanied by a supplemental appeal brief, but no new amendments, affidavits (37 CFR 1.130, 1.131 or 1.132) or other evidence are permitted. See 37 CFR 1.193(b)(2).

Claim Objections

2. Claims 31-38 are objected to because of the following informalities: the term "than" should be added right after "a smaller surface area", line 2, claim 31 to avoid grammatical errors. Appropriate correction is required.

Double Patenting

3. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

   A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

   Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

4. Claims 31-35 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-13 of U.S. Patent No. 6,447,885. Although the conflicting claims are not identical, they are not patentably distinct from each other because claims 1-13 of U.S. Patent No. 6,447,885 reads on all the claim limitations except the adhesive being void free and exhibiting a wave undulating profile at the edges of the smaller surface. It appears that the U.S. Patent No. 6,447,885 discloses that the adhesive is a cured thermosetting adhesive, self-leveling and has a viscosity within the claimed range. The adhesive is located between two flat glass panels wherein one of the panels has a smaller surfaces area than that of the other of the panels. The assembly of U.S. Patent No. 6,447,885

comprises adhesive deposit having a diameter and height within the range disclosed in the present invention. Therefore, it is not seen that the adhesive would have performed differently than that of the present invention in terms of being void free and the wave undulating profile at the edges of the smaller surface of the glass panel since the two products result from the same process. It seems from the claim, if one meets the structure recited, the properties must be met or Applicant's claim is incomplete. This is in line with ***In re Spada***, 15 USPQ 2d 1655 (1990) which holds that products of identical chemical composition can not have mutually exclusive properties.

5. Claims 36 and 37 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-13 of U.S. Patent No. 6,447,885 as applied to claim 34 in view of Iwashita et al (US 4,715,686). Claims 1-13 of U.S. Patent No. 6,447,885 does not specifically disclose the adhesive being an acrylic adhesive or a silicon adhesive. Iwashita teaches that acrylic adhesive, and silicon adhesive are used as adhesives in fabricating the liquid crystal displays (LCD) (example 4). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the acrylic or silicon adhesive to bond the flat plates together because such is an intended use of the material for the LCD assembly and Iwashita provides necessary details to practice the invention of U.S. Patent No. 6,447,885.
6. Claim 38 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-13 of U.S. Patent No. 6,447,885 as

applied to claim 34 in view of JP 08-043836. Claims 1-13 of U.S. Patent No. 6,447,885 does not specifically disclose the adhesive being a urethane acrylate adhesive. JP'836 discloses urethane acrylate having been used as an adhesive in fabricating the liquid crystal displays (LCD) (abstract). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the urethane acrylate adhesive to bond the flat plates together because such is an intended use of the material for the LCD assembly and JP'836 provides necessary details to practice the invention of U.S. Patent No. 6,447,885.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. Claim 31 is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Kunz (US 4,803,124). Mere recitation of "for fabricating large liquid crystal displays" impacts no definite structure to the

claimed article and is therefore found inadequate to convey structure in any patentable sense. It has been held that a recitation with respect to the manner in which a claimed article is intended to be employed does not differentiate the claimed article from a prior art die attach satisfying the claimed structural limitations. ***Ex parte Masham***, 2 USPQ2d 1647 (1987). Kunz discloses a method of bonding a semiconductor chip to a mounting surface by an adhesive (figures 5 and 6) wherein the bonding surface of the semiconductor is flat (column 4, lines 6-7) and the mounting surface being silver plating (column 5, line 47). Figure 6 of Kunz shows that the semiconductor chip has the surface area smaller than the mounting surface. The adhesive material is applied over the entire area of the semiconductor chip in a manner eliminating voids within the adhesive material (column 7, lines 58-61). Likewise, it is clearly apparent that the adhesive material is void-free. It appears that the claim is unspecific about adhesive viscosity and how the adhesive is applied to the surface for exhibiting a wave undulating profile at the edges of the smaller surface. Kunz meets all the structural limitations as recited in the claims. The adhesive is void free and both plates to which the adhesive is applied are flat. Kunz is applying an adhesive having a starfish shape that is similar to the X pattern of the applicant adhesive onto the support surface and one of the plate surfaces is of a smaller size than other. Therefore, as the surfaces are mated together, the adhesive begins to flow out radially from the center until it reaches the edge of the smaller surface, it is not seen that the adhesive would have performed differently than that of the present invention in terms of the wavelike undulating profile at the edges of the

semiconductor chip surface. Note ***In re Best*** 195 USPQ at 433, footnote 4 (CCPA 1977) as to the providing of this rejection under 35 USC 103 in addition to the rejection made under 35 USC 102. It is the examiner's position that Kunz anticipates or strongly suggests the claimed subject matter.

10. Claim 31 is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Yoshida et al (US 5,187,123). Mere recitation of "for fabricating large liquid crystal displays" impacts no definite structure to the claimed article and is therefore found inadequate to convey structure in any patentable sense. It has been held that a recitation with respect to the manner in which a claimed article is intended to be employed does not differentiate the claimed article from a prior art die attach satisfying the claimed structural limitations. ***Ex parte Masham***, 2 USPQ2d 1647 (1987). Yoshida discloses a method of bonding a semiconductor chip to a lead frame pad by an adhesive wherein the semiconductor chip has the surface area smaller than the led frame pad (figure 4). The adhesive material is applied over the entire area of the semiconductor chip in a manner eliminating voids within the adhesive material (abstract). Likewise, it is clearly apparent that the adhesive material is void-free. It appears that the claim is unspecific about adhesive viscosity and how the adhesive is applied to the surface for exhibiting a wave undulating profile at the edges of the smaller surface. Yoshida meets all the structural limitations as recited in the claims. The adhesive is void free and both plates to which the adhesive is applied are flat. Yoshida is applying an adhesive having an X pattern that is similar to the shape of the applicant adhesive

onto the support surface and one of the plate surfaces is of a smaller size than other. Therefore, as the surfaces are mated together, the adhesive begins to flow out radially from the center until it reaches the edge of the smaller surface, it is not seen that the adhesive would have performed differently than that of the present invention in terms of the wavelike undulating profile at the edges of the semiconductor chip surface. Note ***In re Best*** 195 USPQ at 433, footnote 4 (CCPA 1977) as to the providing of this rejection under 35 USC 103 in addition to the rejection made under 35 USC 102. It is the examiner's position that Yoshida anticipates or strongly suggests the claimed subject matter.

Response to Arguments

11. The art rejections over Kunz or Yoshida have been maintained for the following reasons. Applicant argues that Kunz and Yoshida are related to die attach process and not an LCD application employing a paste presented in an array of spots. The arguments are not commensurate in scope with the claim. Nothing specific about how the adhesive is applied to the surface is included in the claim. Applicant goes on and states that the adhesives of Kunz and Yoshida contain silver particles and will not be self-leveling but instead retain their shape after being dispensed. Again, the claim does not require the adhesive be self-leveling. Further, the language of the claim does not exclude the presence of silver particles in the adhesive. Applicant argues that the present invention is concerned with bonding relatively large area surfaces together such as LCD, some level of voiding is tolerable in die attach of Kunz or Yoshida, a void-free bond line is not necessarily formed when dealing with

large area surfaces in LCD applications. The examiner wishes to point out that the claim again does not require the LCD flat plates as argued by Applicant. All it requires is one of the flat plates has a smaller surface area than that of the other plate. Therefore, the claimed subject matter does not exclude Kunz and Yoshida. The art rejections are thus sustained.

12. The art rejections over Iwashita et al (US 4,715,686) have been withdrawn in view of Applicant's argument (see the last paragraph at page 8 of Appeal brief).

Conclusion

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai Vo whose telephone number is (571) 272-1485. The examiner can normally be reached on M,T,Th, F, 7:00-4:30 and on alternating Wednesdays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (571) 272-1478. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov.

Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Hai Vo

HV

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